

Chapter XI



ARMY AIR
OF
BULGARIA

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Chapter XI

(Orig.)

ARMY AIR

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Chapter XI

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ARMY AIR

110. General Description

A. History and traditions.

At the close of World War I the Treaty of Neuilly deprived Bulgaria of the right to a military air service. Accordingly, the squadrons were disbanded and the flying material destroyed. A number of civilian aircraft, mostly French, were acquired during 1923 and Bulgarian pilots and mechanics were trained in these so that they might be able to operate war machines if the occasion should arise. Officially, aviation was placed under the control of the Ministry of Communications and the Director of Aviation was probably head of the air force.

But in 1937, profiting by the example of her neighbors, Bulgaria renounced the terms of the treaty and began the formation of her air force. General Ajranof, a former cavalry and engineer officer, was appointed Commander in Chief in 1941. The Bulgarian Air Force now forms part of the Army and is under its administration.

Bulgaria signed the Tripartite Pact with the Axis Powers on 1 March 1941 and Germany began the occupation of the country on the same day. Bulgaria was used as a "jumping-off place" for the invasion of Greece five weeks later. The small Bulgarian Air Force was almost completely dominated by the German Luftwaffe, which took over airdromes and establishments, and has since built new bases and improved the old. The country now falls within the area dominated by the Southeastern Air Fleet of the Luftwaffe.

B. Brief description of the establishment and its efficiency as a whole.

Until recently, Bulgaria has possessed no more than a heterogeneous collection of aircraft, many of them permanently unserviceable and very few of any practical value. In 1938-39, there were deliveries of Heinkel and Dornier types from Germany (the Dornier 17 was specifically mentioned) and Capronis from Italy. The Caproni Company maintains a factory at Kazanlk*, though for years it has done only repairs.

Since the entry of the German military forces into Bulgaria, very little information concerning the status of that country's Air Force has been received. Indications are, however, that no marked improvements or changes have taken place. The Bulgarians must have profited considerably from their opportunity to observe units of the Luftwaffe closely, and the Germans have improved airdrome facilities at various localities.

While the majority of the pilots in the Bulgarian Air Force have received training in Germany and Italy, mostly in the former country, its combat efficiency is believed to be very low. Reports have indicated that its units are incapable of carrying out a mission of war alone. However, as the Bulgarian Air Force has not yet been put to the test of battle and its competence observed, the preceding statement may be too severe an estimate of its capabilities.

*See footnote for copy Chap. I, Pg. 1.

111. Strength

A. Aircraft.

In quantity, quality and serviceability the Bulgarian Air Force is weak. Of the entire strength of this Air Force, approximately 30 per cent of its aircraft is operational (Table XI - 1).

TABLE XI - 1
BULGARIAN AIR FORCE, FIRST LINE STRENGTH
20 MAY 1943

	MODERN	OBSELESCENT	OBSELETE	TOTAL
Bombers.....	—	56	42	98
Fighters.....	48	96	—	144
Reconnaissance.....	48	48	—	96
Naval.....	2	—	10	12
Total.....	98	200	52	350

The Air Force has a heterogeneous collection of aircraft. The most modern fighter which the Bulgarian Air Force possesses is the Messerschmitt 109.

B. Personnel.

Table XI - 2 indicates the approximate personnel strength of the Bulgarian Air Force.

TABLE XI - 2
BULGARIA, AIR FORCE,
PERSONNEL STRENGTH

Officer Pilots.....	300
Officer Observers.....	260
Non-commissioned Officers.....	650
Total.....	1,210
Enlisted Personnel.....	3,000 (approximate)

Note: This number is not rigid. The Bulgarian Air Force personnel strength is believed to total 3,500 to 5,000 men.

112. Organization

A. Central administration.

Officially the Bulgarian Air Force forms part of the Army and is controlled by the Military Administration. The Air Force is commanded by a General, who is served by a Colonel as Chief of Staff.

A Directorate of Aviation, comprised of four Bureaus and eleven Services, functions directly under the General commanding the Air Forces (Table XI - 3).

TABLE XI - 3
BULGARIA, ORGANIZATION OF THE
DIRECTORATE OF AVIATION

BUREAU OF	IN CHARGE OF A
Organization and Mobilization	Major
Information and Operations	Lieutenant Colonel
Instruction and Schools	Lieutenant Colonel
Technique	Captain

TABLE XI - 3 (Continued)

BUREAU OF	IN CHARGE OF A
Bases and Communications	Colonel
Studies and Maintenance of Material	Major
Civil Aviation	Lieutenant
Checking	Civilian from Office of Minister of Finance
Materials	Civilian Engineer
(a) Airdromes	Lieutenant
(b) Communications	Civilian Engineer
(c) Meteorology	Civilian Engineer
Studies	Civilian Engineer
Experiments	Civilian Engineer
Workshop	Civilian Engineer
General Stores	Technician Engineer
Supply	Lieutenant Colonel
Health	Lieutenant Colonel

B. Tactical organization.

The largest tactical unit in the Bulgarian Air Force is the Orlek, or Group. An Orlek is further divided into Flying Unit and Ground Element (Table XI - 4).

TABLE XI - 4
BULGARIA, ORGANIZATION OF THE
AIR FORCE GROUP

FLYING UNIT	GROUND ELEMENTS
3 War Squadrons	1 Park
1 Training Squadron	1 Aerodrome Company
Each Squadron (Yato) is subdivided into 3 platoons (Krilo). Each platoon has four airplanes of which one is in reserve.	1 Company of Workers
	1 Company of Watchmen
	1 Antiaircraft Battery

The total personnel strength of a squadron in peacetime is approximately 125 (Table XI - 5).

TABLE XI - 5
BULGARIA, PEACETIME PERSONNEL OF THE
AIR FORCE SQUADRON

NUMBER	TYPE
5	Navigating Officers
15-20	Navigating Non-commissioned Officers
10	Non-commissioned mechanics
95-100	Soldiers

In case of Mobilization, each group will form two new squadrons for war, thus bringing the number of Combat Squadrons up to five. Also, the total personnel strength within each squadron is doubled.

**113. Personnel Characteristics,
Officers and Enlisted Men**

In the formation of personnel of the Bulgarian Air Force the same heterogeneous collection is found which was observed in the aircraft. For lack of qualified Bulgarian Officers and men, there is a tendency to rely on foreigners to form and perfect the navigation and technical personnel. The majority of Bulgarian pilots received training in Germany; others in Italy, Czechoslovakia, and Bulgaria itself. While the Bulgarian Air Force lacks unity of doctrine because of this "spread-eagle" method of training, too much emphasis should not be placed upon this deficiency.

Generally speaking, the Bulgarian makes a good pilot. While slow to learn and slow to react, he easily retains what he has learned and his reactions become more or less instinctive. As the majority of Air Force personnel is drawn from educated and wealthy families, the attitude between officers and men is one of understanding and alliance.

Physically, the Bulgarian is rather a remarkable specimen. His endurance is magnificent and his ability to get along on a minimum of rations is little short of amazing. Emotionally he inclines to be phlegmatic rather than excitable. In battle he is known to be calm and dependable.

114. Finance**A. Ratios of pay, all grades.**

The Military Administration takes care of all clothing regardless of grade. Officers receive each year a summer and winter uniform, two caps, a pair of boots, and a pair of low shoes. The monthly salary of officers is comprised of the pay itself, and a cost-of-living allowance (Table XI - 6). All aviators receive, additionally, a flight allowance equal to 12 per cent of their pay on the condition that they accomplish a minimum of 100 hours of flight time yearly. If the number of hours does not reach this minimum, the allowance is proportional to the number of hours accomplished.

TABLE XI - 6
BULGARIA, APPROXIMATE PAY OF
ARMY OFFICERS

GRADE	MONTHLY PAY (LEVA)	COST OF LIVING ALLOWANCE	TOTAL (LEVA)	U. S. EQUIVALENT
S/Lieutenant.....	3,200	660.	3,860	\$ 47.45
Lieutenant.....	3,800	660.	4,046	54.82
Captain.....	5,000	660.	5,660	69.58
Commander.....	5,600	660.	6,260	76.95
Lieutenant Colonel.....	6,000	660.	6,660	81.87
Colonel.....	7,500	660.	8,160	100.31
Division General.....	9,200	660.	9,860	121.20
Army General.....	10,160	660.	11,160	137.18

The pay is subject to the deduction of about 12 per cent while the cost-of-living allowance is received in whole. This cost-of-living allowance is withheld if the officer has a regimental mess or any other military organization where he can take his meals. It is also withheld in case of furlough, and is not counted in calculating the pension.

The traveling allowance is constant for all officers, regardless of grade, with the exception of Generals who have a fixed allowance of 100 leva per day. Other officers receive 120 leva per day in the autumn and winter, and 100 leva per day in the spring and in the summer.

B. Air budget.

The proposed Air Budget for the year 1942 (it is believed that no great change has been effected for the year 1943) placed the grant for the Air Force at 635,000,000 levas, or approximately \$7,470,588. This is a considerable increase over the previous year's budget. Logically it follows that the Sobranje advocated that the Army should remain strong until the end of the war, thus insuring the national integrity.

115. Supply and Equipment

A. Production.

There is very little aircraft production in Bulgaria. The aviation industry consists of repair work and the manufacture, to a small extent, of component parts. Plants in Bulgaria, all of which are of minor importance, reported to be making component parts and/or equipped to handle repairs are: The Caproni Plant at Kazanlk, the plant adjacent to the Bozhurishte Airdrome near Sofiya and the Lovech Plant, near Lovech. These plants do repair and salvage work, aircraft assembly, and a small bit of manufacturing. The shops are not equipped to do otherwise.

B. Imports and exports.

As Bulgaria has no aviation industry of her own it is forced to import all aircraft. This importation has been almost exclusively from Germany. Some Czechoslovakian, a few Italian and a few French planes have been imported. Until recently, Germany has more or less used Bulgaria as a dumping ground for obsolescent and obsolete aircraft. It has been reported of late that this condition has been corrected and the Bulgarian Air Force is increasing in quality; presumably with the conclusion that Bulgaria will sooner or later be forced by Germany to engage actively in war.

C. Aircraft.

In 1937 when Bulgaria began to disregard the provisions of the Treaty of Neuilly, she looked to Germany as the source for most of her rearmament requirements. Today, the Bulgarian Air Force has largely German aircraft.

116. Training, Morale, and Efficiency

A. Recruiting.

Air officers are chosen from among the students who enter the Military Academy (school for officer training) and who possess the required physical qualifications. Non-commissioned officers are chosen from among the men called in the annual draft. Requirements are that they be Bulgarian subjects, at least 25 years old, and, in principle, have been graduated from one of the several elementary technical schools in the country.

B. Training.

(1) *Officers.* Candidates for pilot-training follow a technical course in the Aeronautical Section of the Military Academy for one year. Flight training is also given. At the end of this first year, they are qualified as Officer Observers. Those who show promise as pilots receive two more years of training, and obtain their pilot certificates in three stages:

(a) Certificate *A* for training plane, (b) Certificate *B* for Observation plane, and (c) Final Certificate for Fighter plane.

(2) *Non-commissioned officers.* Non-commissioned officer pilot candidates are assigned to a squadron for six months. At the end of the period they become non-commissioned officers and are sent to a training school at which they are given a year's course in the theory and practice of flying. Those not adaptable to flying become aerial gunners. Those who are adept may request admittance to the Non-commissioned Officers Corps. Those accepted go through a two-year training period; the others become reserves.

The personnel of the Bulgarian Air Force is high in morale and loyalty. The majority tie the future of their country to that of Germany and are worked on by intense German propaganda throughout their entire training period.

117. Strategic and Tactical Doctrines

As the majority of the Bulgarian Air Force pilots received their training in Germany, it is concluded that the Bulgarian pilots would adhere to the tactical and strategic doctrines advocated by that country. However, as the pilots of this force lack combat experience, and have not, as yet, been put to test, a statement as to the capabilities of this Air Force cannot be drawn.

118. Air Bases

Of the Bulgarian Airfields, the following are the most important and are *Orlek* (Group) Headquarters: Vrazhdebna (Sofiya), Graf Ignatiev (near Plovdiv) Yambol, Gorna Orekhovitsa, Plovdiv, and Karlovo. There are ten other main airdromes, which are: Aitos, Asenovgrad, Burgaz, Dospat, Kazanlk, Khaskovo, Pleven, Shumen, Bozhurishte (near Sofiya), and Stara-Zagora (Figure XI - 1). In addition, there are approximately 22 landing grounds, and approximately 15-20 emergency landing grounds that are of operational value. Table XI - 7 indicates the facilities and locations of the fields.

119. Defense Zones

Bulgaria has been equipped with German antiaircraft materiel. The defenses, however, are manned by Bulgarian Army personnel. The attitude in the defense divisions is very lax, and the defenses are not considered adequate.

The major airdromes and headquarters of the Orleks are, of course, reasonably well defended (see Chapter X, Topic No. 109). Light antiaircraft and searchlight defenses surround each one of these areas; manufacturing districts are similarly protected. Heavy antiaircraft defense zones, with defenses manned by German crews are: Yambol, Kazanlk, Marino-pole (S of Melnik), Sofiya, Varna, Svilengrad, and Burgaz (Figure XI - 1).

TABLE XI - 7
BULGARIA, LOCATIONS AND FACILITIES OF AIR FIELDS

NAME AND CLASS	LAT. LONG.	ESTIMATED NORMAL DISPERSAL	ESTIMATED EMERGENCY DISPERSAL	TYPE	LOCATION	DIMENSIONS IN FEET
Aitos (Airdrome).....	{ 42° 40' 27° 11'	—	—	—	Approximately 12 miles northwest of Burgaz.	At least 6550 x 4900
Asenovgrad (Stanimaka Airdrome)....	{ 42° 01' 42° 56'	—	—	—	13 miles southeast of Plovdiv.	

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TABLE XI - 7—(Continued)

NAME AND CLASS	LAT. LONG.	ESTIMATED NORMAL DISPERSAL	ESTIMATED EMERGENCY DISPERSAL	TYPE	LOCATION	DIMENSIONS IN FEET
Burgaz (Sarafovo Airdrome).....	{ 42° 33' 27° 34'	30	45	Fighter	Approximately eight miles northnorth- east of Burgaz.	At least 6550 x 4900
Dospat (Airdrome).....	{ 41° 41' 24° 05'	20	30	Fighter	Approximately three and one-half miles westnorthwest of Dospat.	At least 6550 x 4900
Elkhovo (Landing Ground).....	{ 42° 10' 26° 35'	—	—	—	21 miles south of Yambol.	
Gorna Orekhovitsa (Airdrome).....	{ 43° 07' 25° 42'	30	45	Fighter	One and three-quarter miles north of town; four and one-half miles north- east of Trnovo.	3281 x 2460
Graf Ignatiev (Airdrome).....	{ 42° 20' 24° 44'	30	40	Med. Bmbr.	12 miles west of Plovdiv.	
Karlovo (Airdrome).....	{ 42° 37' 24° 48'	35	45	Med. Bmbr.	The north terminus of the Plovdiv/ Karlovo Railroad.	
Kazanlk (Airdrome).....	{ 42° 37' 24° 24'	30	45	Med. Bmbr.	Approximately ten miles northwest of Stara-Zagora.	2600 x 2500, reported to be large field.
Khaskovo (Airdrome).....	{ 41° 51' 25° 34'	—	15	Fighter	Eastern Thrace.	
Pleven (Opanets Airdrome).....	{ 43° 23' 24° 37'	—	—	—	Near town of Pleven.	6562 x 4921
Plovdiv (Airdrome).....	{ 42° 08' 24° 46'	30	45	Med. Bmbr.	One and one-quarter mile south of Plov- div (Philippopol)	At least 6550 x 4900
Shumen (Airdrome).....	{ 43° 17' 26° 55'	20	30	Fighter	Near town of Shumen.	At least 6550 x 4900
Sofiya (Bozhurishre Airdrome).....	{ 42° 45' 23° 13'	30	45	Med. Bmbr.	Seven miles northwest of Sofiya.	2625 x 2298
Sofiya (Vrazhdebna Airdrome).....	{ 42° 42' 23° 25'	45	60	Med. Bmbr.	Eastsoutheast of Sofiya.	
Staro Orekhovo (Airdrome).....	{ 43° 01' 27° 42'	—	—	—	Southsouthwest of Varna.	
Stara-Zagora (Airdrome).....	(approx.) { 42° 25' 25° 37'	30	40	Med. Bmbr.	At junction of Plovdiv/Nova Zagora Road and road to Kazanlk.	At least 6550 x 4900
Svilengrad (Airdrome).....	{ 41° 46' 26° 12'	—	—	—	On Grecian border on east side of Ma- ritsa River.	2600 x 2500
Telish (Landing Ground).....	{ 43° 20' 24° 15'	20	30	Fighter	On the Pleven/Lukovit road.	At least 2600 x 2500
Varna (Peinirdzhik Airdrome).....	{ 43° 11' 27° 47'	—	20	—	Five miles westsouthwest of Varna.	
Varna (Ses. Sevmes Airdrome).....	{ 43° 13' 27° 46'	—	—	—	North of west end of Lake Devna.	At least 6550 x 4900
Yambol (Airdrome).....	{ 42° 29' 26° 31'	30	50	Fighter	One and three-quarter miles northeast of Yambol on east side of Yambol/ Zimnitsa road.	2600 x 2500
BULGARIA, MINOR AIRPORTS, NORTH OF 43°						
Balcic, Rumania (Landing Ground)...	{ 43° 27' 28° 12'	20	30	Fighter		
Dobrich, Rumania (Landing Ground)...	{ 43° 31' 27° 53'	—	—	—		
Dolna Mitropoliya (Landing Ground)...	{ 43° 27' 24° 32'	18	30	MG		
Levski (Landing Ground).....	{ 43° 22' 25° 08'	20	30	Fighter	In northern Bulgaria. Probably at the village on the Pleven/Gorna Orekhovitsa Railroad.	
Lovech (Airdrome).....	{ 43° 09' 24° 42'	20	30	Fighter	Apparently northwest of Lovech.	
Popovo (Kardam Landing Ground)...	{ 43° 21' 26° 15'	20	30	Fighter		
Razgrad (Landing Ground).....	{ 43° 31' 26° 31'	20	30	Fighter	Razgrad is at the junction of the Ruse/ Shumen and the Popovo/Ispirikh (Kemanlar) roads.	
Shumen (Landing Ground).....	{ 43° 17' 26° 55'	20	30	Fighter	Very near Shumen.	At least 6550 x 4900
Telish.....	{ 43° 20' 24° 15'	20	30	Fighter	Telish is on the Pleven/Lukovit road.	At least 2600 x 2500
Varna.....	{ 43° 13' 27° 46'	—	20	Army Coop.	Apparently north of the west end of Lake Devna.	At least 6550 x 4900

TABLE XI - 7—(Continued)
BULGARIA, MINOR AIRPORTS, SOUTH OF 43°

NAME AND CLASS	LAT. LONG.	ESTIMATED NORMAL DISPERSAL	ESTIMATED EMERGENCY DISPERSAL	TYPE	LOCATION	DIMENSIONS IN FEET
Filipovtsi/Sofiya (Landing Ground)...	{ 42° 40' 23° 15'	20	30	Fighter		
Gabarevo (Landing Ground).....	{ 42° 38' 25° 09'	20	30	Fighter	Gabarevo is on the road and railroad (under construction) between Karlova and Kazanlk.	Unserviceable when wet.
Gorna Dzhumaya (Landing Ground)...	{ 42° 01' 23° 07'	—	12	Fighter	Town is in southwest Bulgaria; east of Struma River.	At least 2600 x 2500
Krdzhali (Emer. Landing Ground)....	{ 41° 37' 25° 25'	—	10	Army Coop.	On the southern Bulgaria Khaskovo/Momchilgrad narrow-gauge railroad.	
Krainitsi/Dupnitsa (Landing Ground)...	{ 42° 16' 23° 07'	30	40	Med. Bmbr.	Dupnitsa is on the Dzherman River; principal town on the Gorna Dzhumaya/Sofiya road and railroad.	At least 2600 x 2500
Krumovo (Katunitsa) (Airdrome)....	{ 42° 04' 24° 49'	30	40	Med. Bmbr.	Seven and one-half miles southsoutheast of Plovdiv on the Plovdiv/Svilengrad Railroad; approximately three miles southwest of Katunitsa.	
Levunovo (Emer. Landing Ground)...	{ 41° 25' 23° 20'	—	20	Fighter		
Malo Konare (Landing Ground).....	{ 42° 16' 24° 32'	20	30	Fighter		
Melnik (Landing Ground).....	{ 41° 25' 23° 20'	10	30	Fighter	North of Marino-pole.	
Momehilgrad (Emer. Landing Ground)...	{ 41° 38' 25° 23'	—	20	Fighter	Southwest of Kaskovo.	
Nevrokop (Landing Ground).....	{ 41° 34' 23° 47'	10	30	Fighter	Town is in southwest Bulgaria at the south terminus of the Razlog/Nevrokop Railroad, southwest of the River Mesta.	At least 2600 x 2500
Novoseltsi (Landing Ground).....	{ 42° 39' 23° 38'	20	30	Fighter	About 15 miles eastsoutheast of Sofiya.	At least 2600 x 2500
Petrich (Landing Ground).....	{ 41° 24' 23° 13'	20	30	Fighter	In the southwest corner of Bulgaria on the Greek frontier.	
Razlog (Emer. Landing Ground).....	{ 41° 53' 23° 28'	—	20	Fighter	Razlog is about 20½ miles southwest of Gorna Dzhumaya in southwest Bulgaria.	
Samokov (Emer. Landing Ground)....	{ 42° 18' 23° 37'	—	—	Army Coop.	Apparently about two miles southsoutheast of Samokov.	At least 2600 x 2500
Sheinovo (Emer. Landing Ground)....	{ 42° 38' 25° 24'	—	20	Med. Bmbr.		
Simitli (Landing Ground).....	{ 41° 53' 23° 05'	—	20	Fighter		
Shirbanovo (Landing Ground).....	{ 41° 25' 23° 20'	—	—	Army Coop.		
Sliven (Landing Ground).....	{ 42° 40' 26° 19'	—	—	Army Coop.		
Smolyan (Emer. Landing Ground)....	{ 41° 35' 24° 42'	—	20	Fighter	At Smolyan about ten miles from the Grecian frontier.	At least 2600 x 2500
Pazardzhik (Landing Ground).....	{ 42° 12' 24° 20'	20	30	Fighter	Pazardzhik is on the Plovdiv/Ikhtiman road.	At least 2623 x 2460
Vrba (Landing Ground).....	{ 42° 33' 22° 58'	20	30	Fighter	Southwest of Sofiya.	

FIGURE XI - 1 (ORIG.)

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